

REMARKS/ARGUMENTS

The present application has been “finally” rejected and several amendments to the claims are presented in a good faith attempt to overcome all rejections, to expedite allowance, and to avoid an appeal. In particular, Claim 40 has been amended to include the subject matter of cancelled Claims 46-48, 51, and 52. Thus, the subject matter added to the independent claim has been previously searched and considered. These amendments should not raise a new issue and in fact should reduce issues so that it is easier for the Examiner to agree with Applicant’s arguments for both novelty and non-obviousness.

Claims 54-70 have been cancelled in order to expedite allowance of this application, but Applicant reserves the right to submit the same or similar subject matter in future continuing or divisional applications.

Therefore, Applicant respectfully requests entry, consideration of these amendments, and allowance of this application for the reasons presented below.

Applicant’s Claimed Invention:

Applicant has found a way to provide lithographic printing blanks or precursors using a specific coating composition that can be changed from hydrophilic or oleophilic, or from oleophilic to hydrophilic, by ink jet application of an ink onto the coating. The ink includes specific components, depending upon the character of the coating composition, to give imaged areas either hydrophilic or oleophilic properties that are opposite those of the non-imaged areas.

Specifically, as called for in amended Claim 40, the coating composition includes 1% to 15% polyvinyl alcohol, 20%-60% of polyacrylic acid, 25%-55% of a hydrophobic water-based emulsion having a pH of 7 or below, an aminoplast in an amount depending upon the hydrophilicity or oleophilicity of the coating, and a wetting agent. As pointed out in Applicant’s application this combination of components in the coating and the use of an appropriate ink jet ink, provides an imaged element that requires no post-imaging processing other than an optional heating step. Thus, processing of imaged elements with alkaline developers that are common in the lithographic printing industry is avoided.

Moreover, with some modest design effort, the coating composition can be used to provide either positive or negative images. This flexibility is not common in conventional lithographic printing elements because each type of element must be specifically designed and processed after imaging appropriate to whether they are positive-working or negative-working. The specific coating compositions used in the practice of this invention are also environmentally-friendly, which is an increasingly important consideration in today's market.

Rejection Under 35 U.S.C. §102(b)

Claims 40, 41, 43-47, and 49-53 have been rejected as being anticipated by EP 1,057,622 (Fukino et al.). This rejection is respectfully traversed.

Applicant will provide a detailed discussion of Fukino et al. at this point, not just for this rejection but also for all of the Section 103 rejections discussed below, since Fukino et al. is cited as the basic teaching for all rejections.

It is believed that the presently claimed invention in Claim 40 is novel over Fukino et al., and that all claims dependent there on are also novel, at least by virtue of their dependency.

Fukino et al. describes a lithographic printing plate precursor that has an imaging composition that is sensitive to, and therefore imaged by, imaging radiation (e.g. from a laser beam) to prepare a printing plate without the use of conventional developing steps [0027]. To have required sensitivity to imaging radiation, the imageable layer must include a "light/heat converting agent" [0034].

The imaging composition includes an irradiation "oxidizable compound" in an amount of 0.1-50 wt% [0165]. This compound is present to accelerate the precipitation of a metallic fine piece that is used to provide an oleophilic surface [0136] from the action of thermal imaging. Polyvinyl alcohol (PVA) and polyacrylic acid are listed as possible oxidizable compounds among dozens of possible compounds. However, there is no explicit teaching that combinations or mixtures of these compounds should be used. Moreover, there is no teaching in [0165] of preferences, but it would appear from at least [0181] that saccharides and carbohydrates are preferred, not PVA or polyacrylic acid. Glucose is used as an oxidizable compound in Example II-10.

A variety of other components are taught in Fukino et al. because of its unique imaging composition and method (i.e. irradiation and use of metal formation). For example, what is known as a “organic high molecular weight compound having an hydroxyl group” [0246] is also said to be present in the image-recording layer. A large variety of hydroxy-containing organic high molecular weight compounds are described including PVA and polyacrylic acid. However, contrary to the arguments from the Office throughout this prosecution, there is no explicit teaching that PVA and polyacrylic acid should be used together for this component either. The Examples of Fukino et al. show the use of PVA or polyacrylic acid alone (Examples II-6 and II-11), not in combination. It is also apparent that there is no explicit teaching of the amount of either the PVA or polyacrylic acid, when each is used individually in the image-recording layer.

Moreover, gelatin is the preferred organic high molecular weight compound having a hydroxyl group [0249] and this material can be hardened using conventional gelatin hardeners [0252].

In [0247]-[0248], Fukino et al. further teaches the presence of a “waterproofing agent” for crosslinking and curing the “organic high molecular weight compound having a hydroxyl group” described in [0246]. It is clear from the context that this catalyst is not for reaction with the “oxidizable compound” of [0165] or the “organic high molecular compound” (see below). The useful amounts of the “waterproofing” agent are not described except for the gelatin-hardening compound [0254].

The image-recording layer can also include an “organic high molecular compound” [0266]-[0268]. This component is to be distinguished from the “organic high molecular weight compound having an hydroxyl group” described above. Such organic high molecular compounds can include various polymers and water emulsions, including emulsions of polyurethane resins. Such components are present in an amount of 1 to 20 wt%, preferably 2-10 wt% of the solids content of the image-recording layer [0269].

With this teaching of Fukino et al. in mind, Applicant would like to explain how his claimed invention is novel.

A) Applicant’s coating comprises both polyvinyl alcohol (at 1-15%) and polyacrylic acid (at 20-60%). The Office Action points to [0165] and [0246] for a teaching of PVA or polyacrylic acid, which apparently can be present

to serve either of two purposes. The Office Action then points to [0246] for a teaching of polyacrylic acid. In neither place does Fukino et al. describe or suggest that both PVA and polyacrylic acid should be used in the same recording layer. The Office Action might speculate that such teaching suggests a combination but it doesn't put Applicant's specific combination "in the public domain" as required by Section 102, *In re LeGrice* 133 USPQ 365, at 369 (CCPA, 1962) and *In re Wilder* 166 USPQ 545 (CCPA, 1970). There are hundreds of possible combinations of the materials in [0165] with the materials in [0246] but nothing points to combining PVA with polyacrylic acid among those hundreds of possible combinations. In fact, the most reasonable combination suggested by these paragraphs would be glucose (or another saccharide) with gelatin—those are the preferences described in Fukino et al.

From the teaching in [0165] and [0246], there is no clear description of Applicant's amounts of PVA and polyacrylic acid. If [0165] is used to describe PVA and [0246] is used to describe polyacrylic acid, there is no description of 20-60 wt% for polyacrylic acid in [0246]. If [0165] is used to describe polyacrylic acid and [0246] is used to describe PVA, there is no teaching of 1-15 wt% for PVA in [0246]. The Office cannot have it both ways—citing a combination of two different polymers from two different paragraphs but using only one paragraph for the amounts of both polymers. That is clearly not the intent of Fukino et al., and Applicant's claimed combination is not described when the teaching of Fukino et al. is properly interpreted.

B) Applicant's claimed invention also includes 25-55 wt% of a hydrophobic water-based emulsion. The Office Action further alleges that Fukino et al. describes the hydrophobic water-based emulsion in [0267]. However, the amount of this component described in Fukino et al. [0269] is only 1-20 wt%, which is very different from that required in Claim 40.

C) Applicant's claimed invention further includes an aminoplast in an amount of not more than 10% if the coating is hydrophilic and 10-20% if the coating is oleophilic. The Office Action argues that aminoplasts are taught in [247], which compounds are apparently used to crosslink or cure the "high molecular compounds" of [0246]. No amounts of such components are described in Fukino et al. Only the preferred hardeners for the preferred gelatin are quantified [0254] but this also is suspect because the amount of gelatin is not

described. Thus, Fukino et al. does not described Applicant's amount of aminoplast.

In arguing about individual claims, the Office Action argues that Applicant's Claims 46 and 47 (amounts of PVA and polyacrylic acid now part of Claim 40) are described in [0165]. As pointed out above, there is no combination of polymers described in [0165] or [0246]. Amounts are taught only in [0165], and those amounts do not describe Applicant's different amounts for different polymers. Thus, Fukino et al. fails to describe the very different amounts of both polymers when used in combination.

The Office Action also argues that Fukino et al. describes the amount of aminoplasts of Claims 51 and 52 (now part of Claim 40). This is incorrect since the Office Action points to [0247] as describing the aminoplasts but there are no amounts described therein.

The remaining dependent Claims 41, 43, 44, 45, 49, 50, and 53 are novel based on their dependence upon novel Claim 40.

For the reasons presented above, the Section 102(b) rejection of Claims 40, 41, 43-47, and 49-53 should be withdrawn.

Rejections Under 35 U.S.C. §103(a)

I. Claims 48 and 71 have been rejected as unpatentable over Fukino et al.

II. Claim 42 has been rejected as unpatentable over Fukino et al. with US 5,820,932 (Hallman et al.).

III. Claims 54-56, 59, and 61 have been rejected as unpatentable over Fukino et al. with US 2001/0019760 (Kawamura) and US 6,444,750 (Touhsaent).

IV. Claims 57 and 58 have been rejected as unpatentable over Fukino et al. with Kawamura, Touhsaent, US 2002/0054981 (Deutsch et al.), and US 5,556,583 (Tashiro et al.).

V. Claim 69 has been rejected as unpatentable over Fukino et al. in view of Karamura and Touhsaent.

VI. Claim 70 has been rejected as unpatentable over Fukino et al. with Kawamura, Touhsaent and "applicant's admitted prior art".

All of these rejections are traversed and addressed in turn below.

Rejection I:

The Office Action argues that the subject matter of Claim 48 (now part of amended Claim 40) is obvious in view of the “range of concentrations in paragraph 269”. Because Fukino et al. teaches a range of concentrations for various components, the Office Action speculates that it would be obvious to one of ordinary skill in the art to use 25-55 wt%, even though Fukino et al. discloses only 1-20 wt%, in order to optimize hydrophilicity.

First of all, the subject matter of former Claim 48 does not stand alone, and the combination of components and their amounts in amended Claim 40 is certainly not obvious from any teaching in Fukino et al. or from speculation as to what one skilled in the art might choose. Secondly, it is certainly apparent that nothing in all of the ranges of components in Fukino et al. would suggest that the “organic high molecular compound” of [0266] would be used at any level other than the explicit amounts taught in [0269]. The amounts of all components must be taken at face value as directed to those components only, not extended to any other component in the composition described by Fukino et al., and not particularly to components that already have an explicit teaching as to the amount. Basically, the Office Action is saying that one skilled in the art would ignore the teaching in [0269] or extend it to optimize hydrophilicity but fails to say why a skilled worker would extend it. Applicant does not believe that Section 103 allows the USPTO to ignore explicit teaching in the art in order to get a different result, or to extend the explicit teaching to Applicant’s different and broader range. Such speculation is not based on the prior art teaching, but the “roadmap” provided by Applicant’s own teaching. The Office Action is correct that it is “one having ordinary skill in the art” that would interpret the art teaching, but that person would not have the benefit of Applicant’s disclosure that teaches the specific combination of PVA and polyacrylic acid.

With respect to Claim 71, the Office Action alleges that the catalysts described in Fukino et al. [0248] are not necessary. Applicant would agree that the catalysts in that paragraph are optional, but the “organic high molecular compounds” of [0246] require some type of crosslinking or hardener and when gelatin is used as such compound, a gelatin hardener is used [0251]. It would be intuitive to a person of ordinary skill in the art that crosslinking catalysts

or hardeners would be preferential to leaving them out. Applicant's Claim 71 clearly omits such catalysts, contrary to the suggestions in Fukino et al.

In addition, the subject matter of Claim 71 does not stand alone but is combined with amended Claim 40, and the combination of subject matter from both claims is not obvious from Fukino et al. since the reference fails to teach or suggest the combination of components, their amounts, and the omission of a crosslinking catalyst.

For these reasons, the rejection of Claims 48 and 71 should be withdrawn.

Rejection II:

Claim 42 has also been rejected as unpatentable over the combined teaching in Fukino et al. and US 5,820,932 (Hallman et al.). Claim 42 calls for the coating on the substrate to be oleophilic. Even if the Office Action arguments about Fukino et al. and Hallmann et al. are accepted for argument sake in relation to Claim 42, the combination of subject matter in amended Claim 40 and Claim 42 is not taught or suggested in Fukino et al. with Hallman et al. As pointed out above, Fukino et al. fails to describe the use combination of components and their amounts as called for in Claim 40. Nothing in Hallman et al. would overcome this deficiency. Moreover, nothing in Hallman et al. would overcome the difference between Fukino et al. and the presently claimed invention in relation to the different types of imaging compositions. Hallman et al. teaches the use of hydrophobic material that is washed away in non-imaged areas. So, even if Hallman et al. provides a suggestion of an oleophilic coating, which Applicant is not admitting, the combined teaching still fails to suggest the presently claimed invention having a permanent layer comprised of specific amounts of specific components, that is not washed away. Thus, the rejection of Claim 42 is improper and should be withdrawn.

Rejection III:

Claims 54-56, 59, and 61 have been rejected as unpatentable over Fukino et al. in view of US 2001/0019760 (Kawamura) and US 6,444,750 (Touhsaent). This rejection is moot since these claims have been cancelled.

Rejection IV:

Claims 57 and 58 have been rejected as unpatentable over the combination of Fukino et al., Kawamura, Touhsaent, US 2002/0054981 (Deutsch et al.), and US 5,556,583 (Tashiro et al.). This rejection is also moot since the noted claims have been cancelled.

Rejection V:

Claim 69 has been rejected as being unpatentable over Fukino et al. taken with Kawamura and Touhsaent. This rejection is moot since Claim 69 has been cancelled.

Rejection VI:

Lastly, Claim 70 has been rejected as unpatentable over Fukino et al. in view of Kawamura, Touhsaent and Applicant's "admitted prior art" on page 10 (lines 6-11) of the present application. This rejection is also moot since Claim 70 has been cancelled.

Response to Examiner's Comments (pp.10-11):

In paragraph 7, the Office Action points out that the rejection over Fukino et al. includes citation to both [0165] and [0246] and admits that those paragraphs teach "either" PVA or polyacrylic acid. It then concludes that both compounds could be used in combination, but no reasoning is presented for this conclusion. As pointed out above, there is no explicit teaching of a combination of PVA and polyacrylic acid. Only Applicant's disclosure makes that connection. It is more likely that only one or neither of the compounds would be used by a skilled artisan since they are used only singly in some of the Examples of Fukino et al., and they are not even described as the preferred compounds. Merely pointing out where each component is mentioned is insufficient for support of either a Section 102(b) or Section 103(a) rejection.

The arguments in paragraph 8 are rebutted in Applicant's arguments presented on pages 4-11 of this paper.

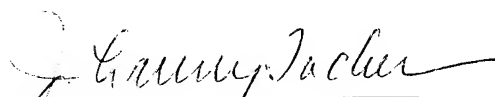
Applicant's response to the use of Hallman et al. in the rejection of Claim 42 is provided on page 10 of this paper.

In paragraph 10, the Office Action refers to Touhsaent and the arguments made earlier in the Office Action. It also alludes to Applicant's prior statement about this reference (last sentence in last full paragraph on page 10 of previous response). Applicant retracts the statement that "[i]t merely suggests that a hydrophilic coating can be made resistant to attack by fountain solution". This statement was erroneously made and is not representative of the current understanding by Applicant or the undersigned representative about the teaching in Touhsaent. As pointed out above, Touhsaent has nothing to do with lithography. It is directed to crosslinking PVA films that can be used as packaging, especially food packaging. Such packaging can be imprinted with images, but it is not used for printing as a lithographic printing plate would be used for the printing. As such, no one skilled in the lithographic art would bother to consult Touhsaent. Thus, it is not "prior art" for the purposes of a Section 103(a) rejection as required by the criteria established in *Graham vs. John Deere* 383 U.S. 1, 17-18, 148 U.S.P.Q. 459, 467 (1966).

The background in Touhsaent alludes to the sensitivity of PVA to moisture—that is well known outside of Touhsaent—so PVA is crosslinked to provide the desired barrier properties for packaging purposes. PVA is the predominant component of the packaging film. This is not the case for the imaging layer or coating used in the presently claimed invention where PVA is a relatively small component of the imaging layer (1-15 wt % only). Thus, the use of Touhsaent for any of the rejections is improper.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the examiner is earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "J. Lanny Tucker", written over a horizontal line.

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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.